U. S. Gov't
Master
Specification
No. 96b

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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CIRCULAR OF THE BUREAU OF STANDARDS. No. 241

[Second ed. Issued June 4, 1927]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR PACKING, ASBESTOS SHEET, COMPRESSED

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 96b

[Revised May 12, 1927]

This specification was officially promulgated by the Federal Specifications Board on December 29, 1923, for the use of the departments and independent establishments of the Government in the purchase of compressed asbestos sheet packing.

[The latest date on which the techn cal requirements of this revision shall become mandatory for all departments and independent establishments of the Government is August 12, 1927. They may be put into effect, however, at any earlier date after promulgation.]

CONTENTS

		Page
I.	General specifications	1
II.	Grades	2
III.	Material and workmanship	2
IV.	General requirements	2
V.	Detail requirements	2
	1. Grade A packing	2
	2. Grade B packing	3
VI.	Methods of inspection and tests	3
VII.	Packing and marking	4
VIII.	Notes	4

I. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government general specifications for rubber goods, Federal Specifications Board specification No. 59 in effect on date of proposal.

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II. GRADES

Packing shall be furnished in two grades, as required: Grade A and grade B.

III. MATERIAL AND WORKMANSHIP

Packing shall be made of asbestos fiber, treated with a rubber compound and felted into a sheet of compact and uniform texture, with smooth surfaces and free from imperfections. The finished packing shall be free from gasoline or other solvents used in the process of manufacture.

IV. GENERAL REQUIREMENTS

1. The fiber shall be chrysotile asbestos of not less than 12 per cent water of composition.

2. The rubber shall be the best quality new wild or plantation rubber.

3. Packing shall be furnished in the dimensions ordered. A tolerance in thickness, plus or minus, will be permitted as follows: For thickness $\frac{3}{32}$ inch or less, 10 per cent; for greater thickness, 5 per cent.

4. The hardness, measured in depth of indentation produced by a spherical surface 3.2 mm (0.125 inch) in diameter under a dead-weight pressure of 1 kg (2.2 pounds) applied for one minute, shall be not less than 0.15 mm nor more than 0.25 mm. At least five impressions shall be made on both faces and the average of all readings reported as the hardness.

V. DETAIL REQUIREMENTS

1. GRADE A PACKING

(*a*) This grade shall have the following chemical composition:

	Per cent by weight
Asbestos fiber, minimum	75
Rubber	9 to 16
Sulphur	0.50 to 1
Mineral fillers, maximum	13

(*b*) The asbestos fiber shall be thoroughly carded and not less than 90 per cent shall remain on the ½-inch screen and not more than 6 per cent shall pass through the ¼-inch screen when 1 pound of fiber is subjected to a two-minute test in a standard asbestos shaking machine.

(*c*) The tensile strength shall be not less than 4,000 pounds per square inch.

(*d*) The weights of the finished packing shall conform to the following:

Size of packing (inch)	Weight per square yard	
	Minimum	Maximum
	Pounds	*Pounds*
1/64	1.0	1.3
1/32	2.2	2.7
1/16	4.4	5.4
1/8	8.8	10.8
3/16	13.2	16.2
1/4	17.6	21.6

2. GRADE B PACKING

(*a*) This grade shall have the following chemical composition:

	Per cent by weight
Asbestos fiber, minimum	70
Rubber	9 to 16
Sulphur, maximum	1
Mineral fillers	Remainder.

(*b*) The tensile strength of cross-laminated sheets shall be not less than 3,000 pounds per square inch in either the longitudinal or transverse directions. Single ply sheets having a minimum tensile strength of 1,800 pounds per square inch will be acceptable if the average tensile strength in the longitudinal and transverse directions is not less than 3,000 pounds per square inch.

(*c*) The weights of the finished packing shall conform to the following:

Size of packing (inch)	Weight per square yard	
	Minimum	Maximum
	Pounds	*Pounds*
1/64	1.2	1.5
1/32	2.4	3.0
1/16	4.8	5.9
1/8	9.6	11.8
3/16	14.4	17.7
1/4	19.2	23.6

VI. METHODS OF INSPECTION AND TESTS

1. Two samples of finished packing 12 inches square shall be selected by the inspector from each lot of 2,000 pounds of packing or less of each thickness and forwarded to the testing laboratory for such tests as may be necessary to determine compliance with this specification.

2. Accurate records of each box or mix of material shall be maintained by the manufacturer and be open for examination by the inspector, who shall at intervals be permitted to check the mixing operation.

3. The inspector may make a screen analysis of the asbestos fiber during the process of manufacture to determine compliance with Section V, 1, (*b*) above.

4. The tension-test piece shall have a constricted portion 2 inches long and one-half inch wide. Three tension tests shall be made in each direction from one sample of each lot, the other sample being used for the hardness test.

VII. PACKING AND MARKING

Packing and marking shall be in accordance with the best commercial practice unless otherwise specified.

VIII. NOTES

1. Grade A packing is for use in steam joints under a maximum pressure of 350 pounds per square inch and a maximum temperature of 700° F. and for joints of internal-combustion engines.

2. Grade B packing is for use in steam joints under maximum pressure of 300 pounds per square inch and a maximum temperature of 600° F. and for internal-combustion engines.

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